Impact of Terrorism on Foreign Direct Investment in Pakistan

By: Akbar Jalil

Abstract

Pakistan, being a key ally in global war on terror, has paid huge price in term of economy, security and national resources to address its internal security challenges. This alliance costs billions of dollars of economic loss, thousands of innocent lives and left the infrastructure in dilapidated condition. Pakistan’s political and military engagement on the so called war on terror, on behest of United States, has considerably waned economic activities across the country. Being a non-NATO ally in war on terror and its consequences in shape of terror incidents like suicide attacks, bomb blasts and attacking government installations have negatively affected the perception of investors. Khyber Pakhtunkhwa and FATA, the most vulnerable part of the country, received severe shocks of extremism and violence during war on terror. This led to undermining of economic opportunities for foreign investment in the country. Not only foreign investment but also economic growth and indigenous business activities significantly suffered in the country during last decade. This left adverse effect on national economy and led to increased risk level, uncertainty, inflation and unemployment. Thus, the short and long term potential losses to economy are substantial which could be seen in the form of Foreign Direct Investment (FDI). Time series econometrics has been employed to develop empirical and theoretical estimates for terrorism and FDI flow in ten major sectors of Pakistan. Auto Regression Integrated Moving Average (ARIMA) model and time series data of terrorism and FDI from 2001 to 2016 has been used in this study.

Keywords: FDI, terrorism, Aid, ARIMA Model

Introduction

The term “terrorism” has been derived from “Terrere” a word of Latin language which means “fear/frighten”. Terrorism can be defined as “the premeditated use or threat of using violence by an individual or sub-national group to obtain a political or any other objective through the intimidation of a large audience, beyond that of the immediate victim” (Sandler and Enders, 2005). The term “terrorism” is a broad concept and its definition could vary from region to region and person to person. This phenomenon leads to economic, social, cultural and most importantly psychological impacts and deprivation of pleasure of life in broader context. Foreign Direct Investment is an international investment which redirects the capital investment for the purpose of achieving a long-term economic interest while controlled by a local body in a country. Terrorism is a burning issue these days, and economists are trying to put its cost and outcomes on estimation scale to ascertain economic loss posed by a country.
Terrorism has long roots in history but it has great influence on geopolitical and socio-economic situations in Pakistan. In Pakistan, it surged with the fall of Taliban regime in Afghanistan in 2001. When the tribal leader Mulla Umar refused to hand over the alleged mastermind behind 9/11 attacks, Osama Bin Laden, to United States (Fazal Wahid, 2014). As western part of Pakistan, especially Khyber Pakhtunkhwa (KP) and Federally Administered Tribal Area (FATA), is linked with five major provinces of Afghanistan, where extremist hold strong position, and fleeing Al Qaeda operatives found safe havens in this region after 9/11. Free movement along the border region and significance resemblance in life style, culture and religious values of both sides are the essential aspects of prevailing situations in Pakistan. The severe shocks of extremism and violence in the country left more than sixty thousands people dead and hundreds of thousand injured during last fifteen years (South Asian Terrorism Portal, 2016). This conflict ridden country has received a setback of $118 billion of direct and indirect economic loss (Economic survey of Pakistan 2015-16, 2016). Insurgency has crippled the development, destroyed productive capital and left the economy in miserable condition. According to World Bank statistics, the average annual growth rate remained 4.45% since 2001.

There is a significantly negative relationship between terrorism and GDP. Barth, Tong, McCarthy, Phumiwasana and Yago (2006) found a strong correlation between terrorist activities and economic growth. It was examined that terrorism and economic growth have a negative and significant relationship. High level of terrorist events was associated with drop in real GDP by 4% per capita growth. Similarly, in Russia there were 0.97 terrorist incidents per million persons in 2003 which caused 0.08% of decline in real GDP per capita growth (Barth et al., 2006).

Aftermath 9/11 incident, once again Pakistan became an anchor for US led forces due to its strategic geographical location in the region. This incident sent deep shocks in the Muslim world. Meanwhile Pakistan, being strong ally of US led forces in Afghanistan, agreed to put its sovereignty at risk. Terrorist incidents, since then, left significant impact on national economy which destroyed productive capital, increased the level of uncertainty and political unrest, which are the driving forces of an economy. Host country terrorism has a negative and a considerable impact on FDI. Violent behavior in home country will cause FDI to drop (Blomberg and Mody, 2005). Since 2001, Pakistan has suffered huge economic loss and infrastructural damage across the country.

According to a study conducted by Gul, Anwar, Bangash, and Sanam (2010) in which they used two years (2006 – 2008) data and OLS model, they estimated the impact of terrorism on the financial markets i.e. Karachi Stock Exchange, the Forex market and interbank markets in Pakistan. They concluded that the terrorism has adversely affected the financial markets, but the level of significance for different markets show
discrepancy. For instance Abadie and Gardeazabal (2005) argued that human and physical capital is highly correlated with terrorism and level of uncertainty. They also claimed that military expenditure rises with the rise of terrorism and negatively affects the industries sensitive to instability.

Pakistan’s emerging economy and its potential markets have failed to attract foreign investment due to poor law and order situations. Today, the economy heavily relies on loan and foreign aid instead of attracting foreign investors. Internal security challenges are increasing misery for Pakistan which is strongly linked with instability in neighborhood. But the real threat to national security is internal factors which are supported by local and foreign assistance (Khan, 2009). The analysis of 78 developing economies from 1984-2008 suggested that all kind of terrorism discourages FDI in a country, also argued that foreign aid lessens the negative effect on FDI (Bandyopadhyay, Sandler, Younas, 2011). FDI inflows to certain industrial sectors (urban and service-oriented) are more susceptible to unrest than other sectors that attract investments to remotely located facilities (Murtaza et al., 2014). Economic success is strongly linked with FDI inflows. Multinational Corporations (MNCs) are mostly concerned with stability and political bureaucratic system for investment analysis (Afza and Mahmood, 2009).

Terrorism resulted in the collapse of health, education and agriculture sector especially in KP and FATA region. This led to increase scarcity of edible items, medical care, and lower standard of education. All of these indicators have negative implications for economic growth and prosperity. Further, it restricted trade and business activities across the country and increased perception of risks and uncertainty which result in fall of domestic businesses and capital flight. Schumacher and Nitsch (2004) found that there is 4 % decline in bilateral trade as 100 % increase in terrorist activities in a region using annual trade statistics for 200 countries from 1960 – 1993. Furthermore, terrorism diverted public expenditure from social and economic wellbeing to defense sector. Klor and Berrebi, (2005) found that during last decade, Israel defense industry has considerably expended due to increases in terror attacks and found positive relation with terror fatalities and defense spending. Similarly, poor law and order situations causes massive displacement from conflict zone which further deteriorate health, education and socio-economic problems. Bloomberg, Brock, Gregory and Akila (2004) argued that conflict has always some consequences on economy and negatively affects the credibility of a potential country and increase level of risk and uncertainty.

FDI, like stock Exchange Market, is very sensitive to reflect the instability and political unrest of a country. Abadie and Gardeazabal (2008) found that terrorist activities have an inverse effect on the share prices and capital structure invested in a country. Economic
development like reduction of unemployment, poverty, technological development and improve the living standards is strongly correlated with FDI. The effect of risk and uncertainty can be more drastic when economy is open and factors of production are freely moveable (Abadie and Gardeazabal, 2008). Since rise in terrorist incidents in 2007, the decision of investing firms have considerably affected by the law and order situations in the country. In prevailing situations, investor expects higher risk premium, consequently higher cost of financing.

Terrorism affects the proper use of resources in an economy, required rate of return surges with the rise of uncertainty (Abadie and Gardeazabal, 2008). Rise in terrorism and extremism relates with lower FDI in Pakistan (Harvard Study, 2008). Credit rating of Pakistan has been lowered by World Bank recently due to high risk and uncertainty. Political instability and deteriorated law and order situations upset the investor’s confidence which caused fall in FDI inflow and lower economic activity. A study conducted by Murtaza and Amar (2014) used data from 2003 to 2011 and found that FDI in certain sectors are confined to unrest while other sectors yet show statistically insignificant results. Terrorism have a great share in economic depression (Eckstein and Tsiddon, 2004).

Data and Methodology

The main objective of the study is to test the impact of terrorism (fatalities in terror incidents) on FDI in Pakistan from 2001 to 2016. The literature proposes that terrorism and extremism led to rise in risks and uncertainty that may deter FDI inflows. In this study quarter wise time series data of different sectors of FDI and fatalities in terror events were collected. The Auto Regression Integrated Moving Average (ARIMA) model was employed to ascertain the relationship between fatalities in terror events and FDI flow to different sectors (See Table 1 and Figure 1).

Table 1: Sectors of the Economy Analysed

<table>
<thead>
<tr>
<th>S#</th>
<th>Sector</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transport Equipments</td>
<td>TE</td>
</tr>
<tr>
<td>2</td>
<td>Trade</td>
<td>TR</td>
</tr>
<tr>
<td>3</td>
<td>Textile</td>
<td>TX</td>
</tr>
<tr>
<td>4</td>
<td>Power</td>
<td>PO</td>
</tr>
<tr>
<td>5</td>
<td>Personal Services</td>
<td>PS</td>
</tr>
<tr>
<td>6</td>
<td>Food</td>
<td>FO</td>
</tr>
<tr>
<td>7</td>
<td>Financial Services</td>
<td>FS</td>
</tr>
<tr>
<td>8</td>
<td>Construction</td>
<td>CO</td>
</tr>
<tr>
<td>9</td>
<td>Communication</td>
<td>CN</td>
</tr>
<tr>
<td>10</td>
<td>Oil and Gas</td>
<td>OG</td>
</tr>
</tbody>
</table>
Quarter wise foreign direct invest data was collected from State Bank of Pakistan (SBP) website. Ten major sectors were selected. Only the net FDI inflow was recorded, the outflow was deducted from total FDI in order to determine a true relationship between FDI and terrorism. During 2001-16 communications sector has received the highest inflow, followed by oil and gas, financial services and power sector. The quarterly time series data of fatalities in terror incidents was mostly obtained from South Asian Terrorism Portal (SATP). Apart from SATP some data was collected from Interior Ministry of Pakistan, Wikipedia, and Global Terrorism Database (GTD) (See Figure 2).
In this study, terrorism is measured in terms of fatalities in terror events. FDI is measured in ten major sectors of the economy.

Model Specification:

Literature review and nature of data suggest Auto-regressive Integrated Moving Average (ARIMA) model for this study. Other time series econometrics techniques, i.e., VECM or VAR, have been used in the past, but these techniques do not address the needs of this study. It is believed that the causality arises, in this study, in only one plausible direction, means only terrorism discourages FDI. Several studies have used the same techniques in the past because this model is well fit for the time series data analysis. In this study foreign direct investment flow in ten major sectors, addition to the net FDI flow, was tested against death toll in terror incidents. Fatalities in terror incidents as exogenous variable and net FDI inflow in ten major sectors as endogenous variable has been used in proposed model. Eleven models, including one for net FDI, were estimated using time series data from 2001-16. Following tests have been used in analysis:

A simple ARMAX (p, q) model is expressed as:

\[ y_t = \alpha + \sum_{i=1}^{p} \beta_i y_{t-1} + \varepsilon_t + \sum_{i=1}^{q} \gamma_i \varepsilon_{t-1} \]

\( y_{it} \) = dependent variable sector i at time t, \( Y_{t-1} \) = Auto Regressive (AR) at time t

\( \varepsilon_t \) = Error term

Findings and Analysis

Unit Root Test:

In time series data, the reliability of statistical results depend on the difference between stationarity and non-stationarity of data. Augmented Dickey Fuller (ADF) tests was applied to check the stationarity of the data. According to ADF test CN, CO, FO, FS, PO, PS, TE and TX are stationary at level, but OG, TR, NFDI and FAT are non-stationary at level. Using quarterly time series data, with 4 lags and 1st difference of the data, null hypothesis of unit root rejected for all variables. ARMAX model was employed to determine the relationship between fatalities in terror incidents and net FDI flow to ten major sectors in Pakistan. The ARMAX model is an extended form of the Box Jenkins autoregressive moving average (ARIMA) model with exogenous variables. In this model variables should be stationary, i.e., having constant mean and variance, and constant auto-co-variances over time.
ADF tests can be expressed as: \( V_t = \pi V_{t-1} + \varepsilon_t \), where \( V_t \) is variable of interest, \( t \) is time period and \( \pi \) is coefficient. The following equation explained regression model.

\[
\Delta V_t = (\pi - 1) V_{t-1} + \varepsilon_t = \gamma' V_{t-1} + \varepsilon_t
\]

Where \( \Delta V_t \) is first difference for the variable under consideration.

**Armax Models**

The ARMAX models have two part for the auto-regressive (p) part and moving average (q) part. Autocorrelation and partial autocorrelation functions have been used to determine the adequate lags structure for the model which specifies the mode. The model has been estimated for each time series using specified lag structures. The number of lags systematically reduced and the final models have been established based on AIC and BIC.

**Johanson Co-integration Test:** To determine the long run association between different series, Johanson and Juselius co-integration is used. In this co-integration analysis, Trace and Maximum Eigen value statics have been used. The null hypothesis of co-integration for NFDI, CO, FO, FS, OG, PO, TE and TR was rejected. On another hand the null hypothesis was accepted for CN, PS and TX on the basis of level data, not at 1st difference, in both cases. The trace statistic shows the existence of co-integration equations at 0.05 significant levels.

The first normalized equation shows that terrorism in Pakistan has negative affected FDI in these sectors, i.e., construction, food, financial services, oil & gas, personal services, transport equipment, trade and net foreign direct investment. On another hand, communication, power and textile sectors responded positively, notwithstanding, surge in terrorism during 2001-16. These sectors grew with substantial rate due to high profitability. These sectors will have, in a long run, negative relationship with terrorism. The evidence backs this statement because terrorism affects the sentiments of the investors and causes flight capital to stable economy. According to Dunning theory investors want to invest in such factor of production where they have easy access to valuable resources.

**Conclusion**

Since 9/11, the world is confronted with the menace of terrorism and extremism in different shapes and manifestation after US involvement in war on terror. Security concerns and expansion of global terrorism is a complex dilemma for corporate decision makers and it is hard to predict foreign investor’s behavior. Investment decision depends on a number of factors such as tolerance of uncertainty in unstable political and economic
situations, economic policies, previous experience and long term objectives of a firm in a particular economy. Common logic speaks that terrorism leads to decline in investor’s confidence and thus have adverse impact on foreign investment. In current circumstances, due to terrorism and political instability, investors are reluctant to invest in volatile sectors of Pakistan. Empirical results of this study signify that FDI in Pakistan is closely linked with domestic terrorism as well as instability in neighborhood.

**Recommendations**

Terrorism is no longer a regional issue. It has attracted global attention which destroys the image of host country and increases the risk and uncertainty. Combating terrorism and promoting peaceful economic development should be the fundamental priority of the government. Pakistan being a frontline state in fight against terrorism has paid huge sacrifices in terms of human and economic loss. The economic growth has significantly declined and business opportunities in remote areas e.g. projects of China Pakistan Economic Corridor (CPEC), exploration in Baluchistan, Karak and some part of Northern areas, are badly affected due to security reason. International community must assume the responsibility to ensure the Sustainable Development Goals (SDG) by reviving the economy and assist in the economic growth. Aid is increasing dependency. Domestic business activities and economic growth has considerably declined since its commitment as US allay in war on terror. Therefore, instead of aid, assistance should be provided by the international community.

**References:**


Pakistan Journal of Peace & Conflict Studies


Akbar Jalil


**About the Author**

Akbar Jalil is a research fellow at Institute of Peace and Conflict Studies (IPCS), University of Peshawar. He has worked as Assistant Special Correspondent with international media for KP and FATA. He can be reached at akbarkhan_f@yahoo.com